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Jennifer D. Ahearn
Jennifer Ahearn

**Response Under 37 C.F.R. § 1.116
Expedited Procedure - Group 2816**

PATENT

Atty. Docket No. 30454-21
LSI P-3094

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Edward W. Liu

Serial No.: 08/840,947

Filed: April 21, 1997

For: Noise Cancellation In Mixed Signal
Environment

Group Art Unit: 2816

Examiner: D. Le

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TECHNOLOGY CENTER 2800

AMENDMENT TRANSMITTAL LETTER

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted herewith is an amendment in the above-identified application and the following:

- ☒ No additional claim fee is required.
- ☐ Additional fees are required as calculated and shown below:

	Claims Remaining After Amendment	Highest Number Previously Paid For	Number Extra	Small Entity Rate	Small Entity Fee	Large Entity Rate	Large Entity Fee
Total	24 minus	28		x \$9.00		x \$18.00	
Independent	5 minus	6		x \$42.00		x \$84.00	
1st Presentation of Multiple Dependent Claim				x \$140.00		x \$280.00	
				TOTAL:		TOTAL:	

A Petition for [] One; [] Two; [] Three Month Extension of Time and the requisite fee is being filed concurrently herewith.

Other attachments:

■ The Commissioner is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 12-2252. A duplicate copy of this sheet is enclosed.

- Any additional filing fees required under 37 C.F.R. 1.16.
- Any patent application processing fees under 37 C.F.R. 1.17.

Respectfully submitted,

MITCHELL, SILBERBERG & KNUPP LLP

Dated: August 29, 2003

By Joseph G. Swan
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9-16-03
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For: Noise Cancellation In Mixed Signal
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**RESPONSE TO OFFICE ACTION AND
REQUEST FOR WITHDRAWAL OF FINALITY**

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Office Action dated July 10, 2003, finally rejecting claims 1, 3, 11 to 16 and 20 to 29, Applicant presents the following remarks.

Claims 1, 3, 4, 6-16 and 20-29 remain pending in the application, with claims 1, 4, 7, 11 and 14 being the independent claims. Reconsideration and further examination are respectfully requested.

Initially, Applicant thanks the Examiner for the indication that claims 4 and 6-10 are allowed. However, it appears that the allowed claims may have been misreferenced. In this regard, claims 6, 25 and 26 depend from independent claim 4, and claims 8-10 and 27 depend from independent claim 7. Accordingly, if claims 4 and 7 are allowable, then all of such dependent claims also should be allowable.

Based on the stated grounds for allowability, however, it appears that the Examiner instead should have allowed independent claim 4 (together with its dependent claims 6, 25 and 26) and independent claim 14 (together with its dependent claims 15, 16 and 29). In this regard, the stated reason for allowance is that "the prior art does not disclose the signal supply circuit and the output signal of the second circuit being a null output signal." As to these grounds for allowance, independent claim 4 recites, *inter alia*, "wherein the input signal component is a null output," and independent claim 14 recites, *inter alia*, "supplying a signal to a second circuit which results in a null output from the second circuit." On the other hand, independent claim 7 does not recite anything about a null output.

Therefore, it is assumed that the Examiner intended to allow claims 4, 6, 14-16, 26 and 29 and to reject all other claims. Confirmation of this redesignation of the allowed claims is respectfully requested.

In the Office Action, claims 1, 11, 12, 14-17 and 20-29 were rejected under 35 U.S.C. § 102(b) over Japanese Patent JP815057 (Tarasawa); and claim 13 was

rejected under § 103(a) over Tarasawa. Withdrawal of these rejections and the finality of such rejections are respectfully requested for the following reasons.

Other than the claim allowances indicated above, the present Office Action essentially maintains the same rejections that were set forth in the previous Office Action. However, in doing so, the present Office Action has not fully responded to many of the remarks set forth in Applicant's previous Response. Those remarks are summarized below.

As noted above, Applicant has assumed that independent claims 4 and 14, together with their dependent claims, are allowed. Accordingly, only the other claims in the application are discussed below. Generally speaking, only the other independent claims in the application are directly referenced below, their dependent claims being allowable for at least the same reasons. In this regard, it is noted that dependent claims 3 and 20-24 depend from independent claim 1; dependent claims 8-10 and 27 depend from independent claim 7; and dependent claims 12, 13 and 28 depend from independent claim 11. Thus, the following remarks in connection with any independent claim also applies to its corresponding dependent claims as well.

Also, it should be understood that the following discussion emphasizes certain features and limitations of the present claims that are believed to be particularly relevant to the present rejections. However, it should be understood that each claim is defined by the combination of all features and limitations recited therein, and it is this combination that is believed to be novel and non-obvious over the prior art in each case. With reference to these considerations, the following bullet points summarize the

remarks made in the previous Response which Applicant believes have not yet been fully addressed.

- Independent claim 1 (together with allowed claim 4) recites the feature of a digital circuit located proximate to the first and second circuits. In this regard, the Office Action asserts that the first circuit reads on Tarasawa's delta-sigma converter 2, the second circuit reads on Tarasawa's delta-sigma converter 3 and the digital circuit reads on Tarasawa's circuit elements 15 and 25. However, comparing Tarasawa's circuit diagram in Figure 1 with his block diagram in Figure 2, it is apparent that circuit element 15 actually is part of delta-sigma converter 2 and circuit element 25 is part of delta-sigma converter 3. Thus, reading claim 1 on Tarasawa's apparatus in the indicated manner leads to the conclusion that Tarasawa may include a first circuit and a second circuit, but could not also include a digital circuit, as recited in independent claim 1. The current Office Action focuses on the word "proximate". More importantly, however, as noted above, the asserted application of claim 1 to Tarasawa's device does not even result in any element in Tarasawa's device that corresponds to a digital circuit in addition to the recited first circuit and second circuit. Moreover, Applicant is not aware of any other construction of claim 1 or application of claim 1 to Tarasawa's device that would allow Tarasawa's device to include all of the elements recited in independent claim 1.
- Independent claim 7 recites the feature of supplying the input of the second circuit with an inverse of the signal provided to the input of the first circuit.

Tarasawa does not show this feature of the invention, and no allegation has been made that it does.

- As described more fully in the previous Response, there is no way to read independent claim 11 on Tarasawa's device in any manner in which Tarasawa's device could be said to have all of the recited claim elements, i.e., a plurality of analog circuits, a noise separator circuit and a noise canceling circuit. At most, any attempted application of claim 11 to Tarasawa's device would only show some of such elements. The previous Response analyzed the Examiner's application of claim 11 to Tarasawa's device and concluded that, at a minimum, Tarasawa's device would lack a noise separator circuit, as recited in claim 11. This point has not been addressed in the current Office Action.
- Finally, in the previous Response, it was noted that claims 6 and 10 recite the additional feature that the first circuit, the second circuit, the third circuit and the digital circuit are all on a single integrated circuit chip. The current Office Action still does not address this feature of the invention.

The foregoing remarks identify at least one feature in each independent claim that is not disclosed or suggested by Tarasawa. Accordingly, all claims pending in the application are believed to be allowable over the applied art, and an indication to that effect is respectfully requested.

On the other hand, if the Examiner maintains any or all of the foregoing rejections, the Examiner is respectfully requested to address in detail each of the foregoing bullet points (which are more specifically set forth in the previous Response), and also to withdraw the finality of the present rejection.

In this regard, MPEP § 707.07(f) provides:

"Where the applicant traverses any rejection, the Examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it."

In addition, with respect to any final rejection, 37 C.F.R. § 1.113(b) provides as follows:

"In making such final rejection, the examiner shall repeat or state all grounds of rejection then considered applicable to the claims in the application, clearly stating the reasons in support thereof."

MPEP § 706.07 then includes the following language, in order to clarify the foregoing

C.F.R. requirement:

"Before final rejection is in order a clear issue should be developed between the examiner and applicant"

"where a single previous Office Action contains a complete statement of a ground of rejection, the final rejection may refer to such a statement and also should include a rebuttal of any arguments raised in the applicant's reply."

"The examiner should never lose sight of the fact that in every case the applicant is entitled to a full and fair hearing, and that a clear issue between applicant and examiner should be developed, if possible, before appeal."

"In making the final rejection, all outstanding grounds of rejection of record should be carefully reviewed, and any such grounds relied on in the final rejection should be reiterated. They must also be clearly developed to such an extent that applicant may readily judge the advisability of an appeal . . ."

In the present case, the foregoing authority clearly requires the Office Action to address each issue raised by Applicant. Similarly, prior to making the rejection final, the Office Action should "include a rebuttal of any arguments raised in the applicant's reply" so that "applicant may readily judge the advisability of an appeal." As a result, if any of the above rejections is maintained, the Examiner is respectfully requested to specifically

Serial No. 08/840,947

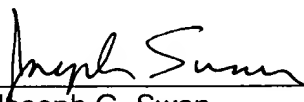
address the foregoing remarks in detail and to withdraw the finality of the present rejection.

If there are any fees due in connection with the filing of this paper that have not been accounted for in this paper or the accompanying papers, please charge the fees to Deposit Account No. 12-2252. If an extension of time under 37 C.F.R. 1.136 is required for the filing of this paper and is not accounted for in this paper or the accompanying papers, such an extension is requested and the fee (or any underpayment thereof) should also be charged to the Deposit Account. A duplicate copy of this page is enclosed for that purpose.

Respectfully submitted,

MITCHELL, SILBERBERG & KNUPP LLP

Dated: August 29, 2003

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